Task For DevOps

1) Installation of Java is required for Jenkins

   Command:

   sudo apt update

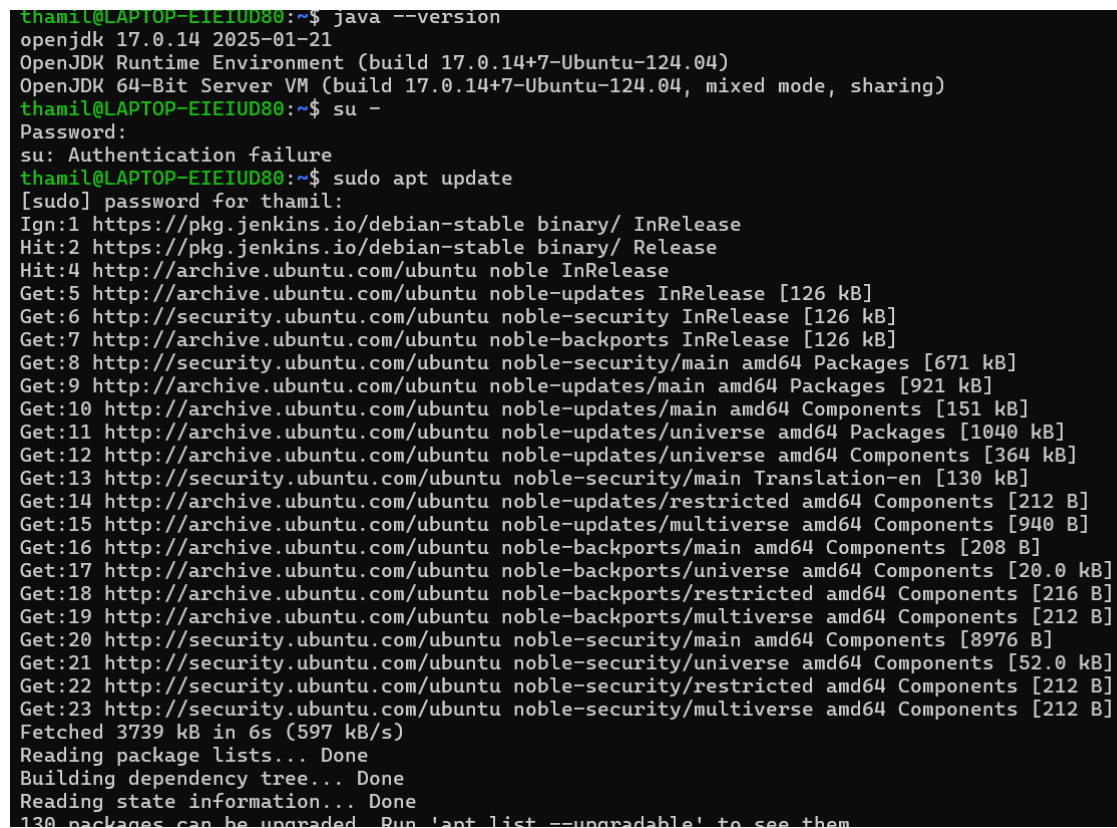   sudo apt install fontconfig openjdk-17-jre

   java -version

   openjdk version "17.0.13" 2024-10-15

   OpenJDK Runtime Environment (build 17.0.13+11-Debian-2)

   OpenJDK 64-Bit Server VM (build 17.0.13+11-Debian-2, mixed mode, sharing)

   ScreenShot:

```
thamil@LAPTOP-EIEIUD80:~$ java --version
openjdk 17.0.14 2025-01-21
OpenJDK Runtime Environment (build 17.0.14+7-Ubuntu-124.04)
OpenJDK 64-Bit Server VM (build 17.0.14+7-Ubuntu-124.04, mixed mode, sharing)
thamil@LAPTOP-EIEIUD80:~$ su -
Password:
su: Authentication failure
thamil@LAPTOP-EIEIUD80:~$ sudo apt update
[sudo] password for thamil:
Ign:1 https://pkg.jenkins.io/debian-stable binary/ InRelease
Hit:2 https://pkg.jenkins.io/debian-stable binary/ Release
Hit:4 http://archive.ubuntu.com/ubuntu noble InRelease
Get:5 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:6 http://security.ubuntu.com/ubuntu noble-security InRelease [126 kB]
Get:7 http://archive.ubuntu.com/ubuntu noble-backports InRelease [126 kB]
Get:8 http://security.ubuntu.com/ubuntu noble-security/main amd64 Packages [671 kB]
Get:9 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [921 kB]
Get:10 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Components [151 kB]
Get:11 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1040 kB]
Get:12 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Components [364 kB]
Get:13 http://security.ubuntu.com/ubuntu noble-security/main Translation-en [130 kB]
Get:14 http://archive.ubuntu.com/ubuntu noble-updates/restricted amd64 Components [212 B]
Get:15 http://archive.ubuntu.com/ubuntu noble-updates/multiverse amd64 Components [940 B]
Get:16 http://archive.ubuntu.com/ubuntu noble-backports/main amd64 Components [208 B]
Get:17 http://archive.ubuntu.com/ubuntu noble-backports/universe amd64 Components [20.0 kB]
Get:18 http://archive.ubuntu.com/ubuntu noble-backports/restricted amd64 Components [216 B]
Get:19 http://archive.ubuntu.com/ubuntu noble-backports/multiverse amd64 Components [212 B]
Get:20 http://security.ubuntu.com/ubuntu noble-security/main amd64 Components [8976 B]
Get:21 http://security.ubuntu.com/ubuntu noble-security/universe amd64 Components [52.0 kB]
Get:22 http://security.ubuntu.com/ubuntu noble-security/restricted amd64 Components [212 B]
Get:23 http://security.ubuntu.com/ubuntu noble-security/multiverse amd64 Components [212 B]
Fetched 3739 kB in 6s (597 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
130 packages can be upgraded. Run 'apt list --upgradable' to see them.
```

   The Java JDK has been successfully installed

2) Install Jenkins

Command:

sudo wget -O /usr/share/keyrings/jenkins-keyring.asc \
  https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key
echo "deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc]" \
  https://pkg.jenkins.io/debian-stable binary/ | sudo tee \
  /etc/apt/sources.list.d/jenkins.list > /dev/null
sudo apt-get update
sudo apt-get install Jenkins

ScreenShot:

```
https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key
echo "deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc]" \
  https://pkg.jenkins.io/debian-stable binary/ | sudo tee \
  /etc/apt/sources.list.d/jenkins.list > /dev/null
sudo apt-get update
sudo apt-get install jenkins
--2025-03-19 04:16:55--  https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key
Resolving pkg.jenkins.io (pkg.jenkins.io)... 151.101.130.133, 151.101.2.133, 151.101.66.133, ...
Connecting to pkg.jenkins.io (pkg.jenkins.io)|151.101.130.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 3175 (3.1K) [application/pgp-keys]
Saving to: '/usr/share/keyrings/jenkins-keyring.asc'

/usr/share/keyrings/jenkins-k 100%[===================================================>]   3.10K  --.-KB/s    in 0s

2025-03-19 04:16:58 (12.4 MB/s) - '/usr/share/keyrings/jenkins-keyring.asc' saved [3175/3175]

Hit:1 http://archive.ubuntu.com/ubuntu noble InRelease
Hit:2 http://security.ubuntu.com/ubuntu noble-security InRelease
Ign:3 https://pkg.jenkins.io/debian-stable binary/ InRelease
Get:4 http://archive.ubuntu.com/ubuntu noble-updates InRelease [126 kB]
Get:5 https://pkg.jenkins.io/debian-stable binary/ Release [2044 B]
Get:6 https://pkg.jenkins.io/debian-stable binary/ Release.gpg [833 B]
Get:7 https://pkg.jenkins.io/debian-stable binary/ Packages [28.7 kB]
Hit:8 http://archive.ubuntu.com/ubuntu noble-backports InRelease
Get:9 http://archive.ubuntu.com/ubuntu noble-updates/main amd64 Packages [921 kB]
Get:10 http://archive.ubuntu.com/ubuntu noble-updates/universe amd64 Packages [1040 kB]
```

JenKins has been successfully installed

Now, Go to the Jenkins page in the Browser running in Localhost:8080 and login with your credentials

Install the Suggested plugins required

Customize Jenkins

Plugins extend Jenkins with additional features to support many different needs.

Install suggested plugins

Install plugins the Jenkins community finds most useful.

Select plugins to install

Select and install plugins most suitable for your needs.

Jenkins 2.492.2

Now Jenkins is ready to use

Getting Started

Jenkins is ready!

Your Jenkins setup is complete.

Start using Jenkins

Jenkins 2.492.2

Now create a new item

Jenkins

Dashboard >

+ New Item

Build History

Manage Jenkins

My Views

Build Queue ⌄
No builds in the queue.

Build Executor Status 0/2 ⌄

Welcome to Jenkins!

This page is where your Jenkins jobs will be displayed. To get started, you can set up distributed builds or start building a software project.

Start building your software project

Create a job   +

Set up a distributed build

Set up an agent   🖥

Configure a cloud   ☁

Learn more about distributed builds   ?

Give an item name and select the item type as free-style project

New Item

Enter an item name

Nginx

Select an item type

⬡ **Freestyle project**
Classic, general-purpose job type that checks out from up to one SCM, executes build steps serially, followed by post-build steps like archiving artifacts and sending email notifications.

↩ **Pipeline**
Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.

▨ **Multi-configuration project**
Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.

Build the steps using the commands

Build Steps

Automate your build process with ordered tasks like code compilation, testing, and deployment.

☰ **Execute shell** ?   ✕

Command

See the list of available environment variables

```
echo "thamil@2004" | sudo -S apt update -y
echo "thamil@2004" | sudo -S apt install nginx -y
echo "thamil@2004" | sudo -S systemctl start nginx
echo "thamil@2004" | sudo -S systemctl enable nginx
echo "thamil@2004" | sudo -S systemctl status nginx
```

Advanced ⌄

Add build step ⌄

After the successful compilation of the build, Nginx will be opened in localhost, once the ip address is given